

BEST AVAILABLE COPY**AMENDMENTS TO THE CLAIMS**

Claim 1-62: (Canceled)

63. (New) A heat exchanger for transferring heat to or from a fluid, comprising:

- a) a heat transfer surface adapted to transfer heat to or from said heat exchanger;
- b) a manifold region substantially coextensive with, and spaced from, said heat transfer surface;
- c) a heat transfer region substantially coextensive with said heat transfer surface and located between said manifold region and said heat transfer surface;
- d) a plurality of internal walls defining a plurality of alternating inlet and outlet passages in said manifold region, said internal walls extending into said heat transfer region in a direction substantially normal to said heat transfer surface to a location proximate said heat transfer surface so as to divide said heat transfer region into a plurality of alternating inflow and outflow portions; and
- e) a heat transfer structure located in each of said plurality of inflow portions, said heat transfer structure in good thermal communication with said heat transfer surface and containing a plurality of channels each having a primary flow axis substantially normal to said heat transfer surface;

wherein:

- i) said plurality of inflow portions are in fluid communication with corresponding ones of said plurality of inlet passages;
- ii) said plurality of outflow portions are in fluid communication with corresponding ones of said plurality of outlet passages; and
- iii) adjacent ones of said plurality of inflow portions and said plurality of outflow portions are in fluid communication with each other through a space between corresponding ones of said plurality of internal walls and said heat transfer surface.

64. (New) A heat exchanger according to claim 63, wherein said heat transfer surface has a heat transfer capacity that varies over said heat transfer surface, and said plurality of inflow portions of said heat transfer region include flow restrictions, wherein at least some of said

flow restrictions are different from others of said flow restrictions so as to vary said heat transfer capacity over said heat transfer surface.

65. (New) A heat exchanger for transferring heat to or from a fluid, comprising:

a plurality of plates stacked together, wherein each of said plurality of plates includes:

- a) a heat transfer edge;
- b) a manifold area extending the length of, and spaced from, said heat transfer edge;
- c) a heat transfer area extending the length of said heat transfer edge and located between said manifold area and said heat transfer edge; and
- d) a plurality of webs defining a plurality of alternating inlet and outlet apertures in said manifold area, said webs extending into said heat transfer area in a direction substantially perpendicular to said heat transfer edge to a location proximate said heat transfer edge so as to divide said heat transfer area into a plurality of alternating heat transfer fins and outflow apertures, wherein the thickness of the plate area corresponding to said fins is less than the full thickness of the plate;

wherein, when said plurality of plates are stacked together:

- i) said heat transfer edges define a heat transfer surface adapted to transfer heat to or from said heat exchanger,
- ii) said manifold areas form a manifold region substantially coextensive with, and spaced from, said heat transfer surface;
- iii) said heat transfer areas form a heat transfer region substantially coextensive with said heat transfer surface and located between said manifold region and said heat transfer surface;
- iv) said plurality of webs define a plurality of internal walls which define a plurality of alternating inlet and outlet passages in said manifold region, said internal walls extending into said heat transfer region in a direction substantially normal to said heat transfer surface so as to divide said heat transfer region into a plurality of alternating inflow and outflow portions;
- v) said heat transfer fins forming heat transfer structures in each of said plurality of inflow portions, said heat transfer structures in good thermal communication with said heat transfer surface and containing a plurality of channels each having a primary flow axis substantially normal to said heat transfer surface;

- vi) said plurality of inflow portions are in fluid communication with the corresponding ones of said plurality of inlet passages;
- vii) said plurality of outflow portions are in fluid communication with the corresponding ones of said plurality of outlet passages; and
- viii) adjacent ones of said plurality of inflow portions and said plurality of outflow portions are in fluid communication with each other through a space between corresponding ones of said plurality of internal walls and said heat transfer surface.

66. (New) A heat exchanger according to claim 65, wherein each of said plurality of plates is a composite plate comprising two or more thinner plates, each of said thinner plates having a plurality of apertures, wherein when said thinner plates are stacked in proper registration with each other to form said composite plates, said inlet apertures in at least one of said thinner plates extend over the areas corresponding to said heat transfer fins in at least another one of said thinner plates, so as to form said heat transfer fins in said composite plates.

67. (New) A heat exchanger according to claim 65, wherein said heat transfer surface has a heat transfer capacity that varies over said heat transfer surface, and said plurality of inflow portions of said heat transfer region include flow restrictions, wherein at least some of said flow restrictions are different from others of said flow restrictions, so as to vary said heat transfer capacity.

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